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Epidemiologic Notes and Reports

Control of Influenza A Outbreaks in Nursing Homes: Amantadine as an Adjunct to Vaccine – Washington, 1989–90

Outbreaks of influenza A virus infection can cause substantial morbidity and mortality among residents of nursing homes. Surveillance for the 1991–92 influenza season indicates that the dominant circulating viruses are influenza A (*1*), for which amantadine hydrochloride is effective for prevention and treatment (*2*). This report describes the use of amantadine as an adjunct to influenza vaccine for controlling an influenza A(H3N2) outbreak that occurred in a Washington nursing home during the 1989–90 influenza season.

The outbreak occurred at a four-wing (lettered A–D), skilled-nursing facility with 201 residents. Most residents were ambulatory, although the movement of those in wing C was restricted. Residents' ages ranged from 40 years through 99 years (median: 85 years); 141 (70%) were female. Influenza vaccine had been administered by the deltoid intramuscular route to 113 (56%) residents during November and the first 2 weeks of December 1989: 21 (46%) in wing A, 26 (58%) in wing B, 39 (85%) in wing C, and 27 (42%) in wing D. Vaccinated and unvaccinated residents were similar in age, sex distribution, and prevalence of congestive heart failure and chronic obstructive pulmonary disease.

Cases of influenza-like illness (ILI)* among residents occurred from December 26 through January 30 (Figure 1). Overall, 35 (17%) of the 201 residents became ill: 10 (22%) in wing A, seven (16%) in wing B, 15 (33%) in wing C, and three (5%) in wing D. Influenza A(H3N2) viruses were isolated from nasopharyngeal specimens obtained from three ill residents; CDC characterized one of these isolates antigenically as similar to influenza A/Shanghai/11/87(H3N2), a component of the 1989–90 vaccine.

*Illness with oral temperature ≥100 F (≥38 C) and cough or sore throat with onset from December 15, 1989, through January 31, 1990.

Control of Influenza A Outbreaks — Continued

ILI occurred among 21 (19%) of 113 vaccinated residents and 14 (16%) of 88 unvaccinated residents (17 [15%] of 113 vaccinated residents and 12 [14%] of 88 unvaccinated residents before January 13). When the analysis was stratified by nursing home wing, the efficacy of vaccine for preventing ILI was 20% (95% confidence limits = −60%, 60%). The median duration of symptoms was 6.0 days for vaccinated ill residents and 8.5 days for unvaccinated ill residents ($p = 0.2$, Wilcoxon rank sum test).

On January 12, the Washington State Department of Health was notified of the outbreak and recommended that all residents receive amantadine, 100 mg orally in a single dose each day for 10 days. Nursing home physicians ordered amantadine preventive therapy for 186 (93%) residents; doses were not adjusted for renal function. During the 18-day period following the institution of amantadine therapy (January 13–30), the daily average rate of ILI was 0.3 cases per day compared with an average rate of 1.6 cases per day for the 18-day period preceding use of the drug (December 26–January 12) ($p<0.01$, 2-sample test of equality of Poisson parameters).

Residents were monitored three times each day for signs and symptoms of amantadine toxicity. Five (3%) persons had probable side effects (one each with hallucinations, anorexia, agitation, insomnia, and dizziness); each manifestation resolved after discontinuation of the drug (four persons) or withholding one dose (one person).

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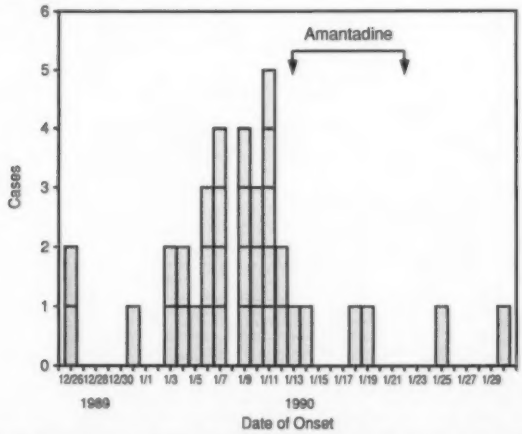
Editorial Note: Because nursing home residents are at high risk for complications from influenza, the Immunization Practices Advisory Committee (ACIP) recommends

FIGURE 1. Influenza-like illness* among nursing home residents, by date of onset — Washington, 1989–90



*Illness with oral temperature ≥100 F (≥38 C) and cough or sore throat with onset from December 15, 1989, through January 31, 1990.

Control of Influenza A Outbreaks – Continued

that they receive annual vaccination against influenza (*3*). However, the efficacy of vaccine in preventing influenza among nursing home residents has varied (*4*). For example, in this report, the efficacy of vaccination against ILI during the outbreak was 20%; in comparison, during the same influenza season, vaccine efficacy was 31%–70% in nursing home outbreaks in four other states (D. Wells, Florida Department of Health and Rehabilitative Services, unpublished data, 1990). Although vaccination may not always prevent illness among nursing home residents, it can reduce the duration of illness (*5*), incidence of hospitalization (*6*), and risk for death (*6,7*). When vaccine antigens closely match circulating strains, the vaccine may be more than 70% effective in preventing influenza-related pneumonia, hospitalization, and death (*6*).

Although the impact of amantadine in uncontrolled situations cannot be determined with certainty, its apparent effect on this outbreak is consistent with others that indicate amantadine can be used as an adjunct approach to control outbreaks of influenza A among nursing home residents (*8*). Moreover, the duration and impact of this outbreak might have been attenuated further had contingency plans existed for using amantadine earlier in the outbreak (*3*). Such contingency plans may include preapproving medication orders by physicians or ensuring a means of obtaining them on short notice, ensuring an adequate supply of the drug, and developing a system to monitor for drug side effects. If an outbreak is recognized, all residents should receive amantadine, regardless of their vaccination status.

In addition to outbreak control, amantadine can also protect residents for whom vaccination is contraindicated, those who are expected to have a poor antibody response to vaccination, and newly vaccinated residents during the 14-day period following vaccination while immunity develops. Although amantadine can reduce the severity and duration of influenza A illness in healthy adults, no data are available about its efficacy in preventing complications of influenza A among nursing home residents (*3*). If amantadine is used to treat residents who develop illness consistent with influenza, therapy should be initiated within 48 hours of onset, even if laboratory confirmation is not available.

In this outbreak, the incidence of potential side effects to amantadine was low—even without dose adjustment for each resident—and is consistent with the shift in 1987 to a reduction of daily dosage from 200 mg to 100 mg for persons ≥65 years of age (*3*). However, dosage should be modified for age, weight, renal function, and the presence of other medical conditions according to manufacturers' recommendations.

Nursing home officials should monitor state and local influenza surveillance findings and initiate amantadine prophylaxis if influenza A activity is reported in their community and ILI occurs in the nursing home. Amantadine should also be offered to unvaccinated staff who provide care to residents. Unvaccinated nursing home residents, including newly admitted residents, should continue to be vaccinated until the season ends.

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Control of Influenza A Outbreaks — Continued

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Cholera Associated with Imported Frozen Coconut Milk — Maryland, 1991

During August 1991, three cases of cholera in Maryland were associated with the consumption of frozen coconut milk imported from Asia. Following an investigation, the product was recalled, and no other cases have been reported.

On August 19, a woman residing in Maryland had onset of severe watery diarrhea and vomiting and, on August 22, was hospitalized with dehydration. *Vibrio cholerae* O1, serotype Ogawa, biotype El Tor, and *Plesiomonas shigelloides* were isolated from the stool specimen obtained from the patient; the *V. cholerae* O1 isolate was confirmed at the Maryland State Department of Health and Mental Hygiene (MDHMH) and CDC and was toxigenic.

The patient had neither traveled outside the United States nor eaten raw shellfish during the preceding month. She and five other persons had attended a private party on August 17. Two of the other persons also had onset of an acute diarrheal illness after the party; incubation periods were 6 hours and 14 hours. Vibriocidal antibody titers were elevated, indicating recent infection with *V. cholerae* O1. One asymptomatic person also had an elevated vibriocidal antibody titer. Thus, four persons attending the party had laboratory evidence of recent infection, and three of the four had symptoms of cholera. None of the four reported recent foreign travel or cholera vaccination.

Food served at the party included steamed crabs and a homemade Thai-style rice pudding served with a topping made from frozen coconut milk. All six persons ate crabs and rice pudding with coconut milk. However, crabs left over from this party were served at a second party held later on August 17 at the same site; the coconut milk topping was not served. One of 20 persons at the second party had onset of mild diarrhea; specimens obtained from this person and 14 others were negative for vibriocidal antibodies when tested 12–26 days after the party.

The Food and Drug Administration's (FDA) Baltimore District Laboratory cultured unopened packages of the same brand of frozen coconut milk (but a different shipment) as that served at the party. Toxigenic *V. cholerae* O1, serotype Ogawa, biotype El Tor, was isolated from one of six bags tested. In addition, *V. cholerae* non-O1, *V. fluvialis, V. alginolyticus, Aeromonas* species, and group B, E1, and E2 *Salmonella* were isolated from this product, with coliform counts measuring up to 11,000 most probable number per gram.

No secondary cases of cholera were identified among contacts of the affected persons. In addition, surveillance through emergency rooms failed to identify addi-

Cholera – Continued

tional cases in the area. The MDHMH placed Moore swabs in four central sewage collection points in the Baltimore metropolitan and Montgomery County areas as a surveillance measure for the presence of *V. cholerae* O1 infection in the general population; swabs collected from September 11 through October 3 did not yield *V. cholerae* O1.

The implicated product in this outbreak was Asian Best brand of frozen coconut milk, produced in Thailand and exported by a Bangkok trading company to a Maryland distributor. Nineteen shipments, totaling 36,160 8-ounce bags, had been imported since January 1, 1991. On September 20, the distributor issued a voluntary product recall, and FDA halted all further importation of this product. The Thai Ministry of Public Health reported that the manufacturer of this brand was not licensed by the Thai FDA and shipped the product only to the United States.

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Editorial Note: Of the 24 cases of cholera reported in the United States during 1991, 16 were exposed during travel to South America (*1–3*); all 16 patients were infected with *V. cholerae* O1, serotype Inaba, the strain epidemic in Latin America. Three were exposed during travel to Asia; two of the three were infected with serotype Ogawa, the serotype identified in the patient from Maryland.

The source of infection of the coconut milk implicated in the Maryland cholera outbreak remains under investigation. This product, marketed primarily for home use (distribution to restaurants was limited), is usually consumed well-cooked in ethnic curries and desserts. In this outbreak, the heating of the coconut milk was apparently insufficient to kill cholera organisms, and prolonged holding time at room temperature was sufficient to allow the organisms to multiply to infectious levels (*4*). The risk for cholera infection to the general public by this product is minimal given its limited distribution and usual preparation procedure. However, this outbreak illustrates the potential for global dissemination of cholera in a frozen food product. Canned coconut milk is safe because heat treatment during the standard canning process is sufficient to kill vibrios.

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Current Trends

Injury Mortality Atlas of the United States, 1979–1987

Injury is the fourth leading cause of death among all persons in the United States and, because of increased risk for injury to the young, is the leading cause of potential years of life lost before age 65 years (*1*). In 1988, the estimated total national cost attributable to injuries was $180 billion (*2*). To assist public health agencies in targeting interventions for the control and prevention of injuries in geographic areas of increased risk, CDC developed the *Injury Mortality Atlas of the United States, 1979–1987*, which presents county-specific maps illustrating the geographic distribution of injury-related death rates. This report summarizes methods used to create the atlas and highlights important patterns and findings.

The atlas uses color-coded maps to present death rates per 100,000 persons for injury-related deaths in 3072 counties.* Risk-group–specific maps are also presented for homicides among black males and for fall-related deaths among persons aged ≥55 years in the United States. Rates in the atlas are based on the number of deaths and the intercensal population estimates obtained from the Compressed Mortality File produced by CDC's National Center for Health Statistics. Cause of injury was determined by the *International Classification of Diseases, Ninth Revision*, external cause of death codes (E-codes). Death rates were based on decedents' counties of residence rather than counties where deaths occurred. A modified empirical Bayes (EB) procedure was developed to stabilize county-level death rate estimates for counties with small populations (*3,4*); age-specific modified EB rates were standardized directly to the age distribution of the 1940 U.S. census population.

Counties were color-coded based on the empirical distribution of stabilized rates; for example, for homicide and drowning, counties with cause-specific death rates ranging from the 75th through 89th national percentile were colored blue, and those with rates in the 90th percentile or higher were colored red. The atlas also presents maps showing the geographic distribution of injury mortality separately for each state and tabular and graphic summaries of trends in death rates by the decedent's sex, age, year of death, and race.

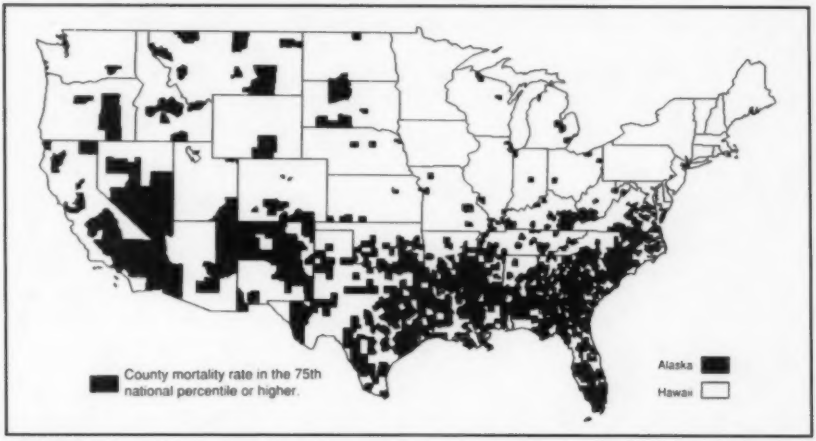
The geographic distribution of injury-related deaths illustrated in the atlas include the following:

- Homicide rates were higher in counties with large metropolitan areas. Counties with high rates also were clustered across rural and urban areas in the southeast (Figure 1).
- In general, suicide rates were higher in western states; however, counties with high rates were also clustered in the central and southern Appalachian Mountains.
- Fall-related death rates were greater in western states.
- Counties with high rates of fire- and burn-related death were clustered along the southeastern coastal plain and in areas adjacent to the lower Mississippi River.
- Counties with high drowning rates were clustered along the southeast, Gulf, and northwest coastlines and in areas adjacent to the lower Mississippi River (Figure 2).

*Because of the absence of county-specific reporting for Alaska and the small number of counties in Hawaii, death rates were not mapped for these states. Other counties were combined to maintain consistency over calendar years or to ensure agreement between county boundary files and the reporting units used by CDC's National Center for Health Statistics.

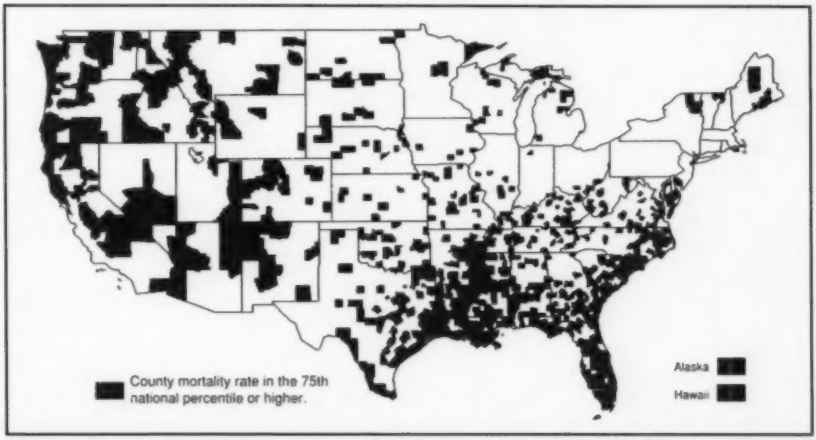
Injury Mortality — Continued

FIGURE 1. Counties with homicide rates per 100,000 population ranked in the 75th percentile or higher, by county* — United States, 1979–1987



*Because of the absence of county-specific reporting for Alaska and the small number of counties in Hawaii, death rates were not mapped for these states. Other counties were combined to maintain consistency over calendar years or to ensure agreement between county boundary files and the reporting units used by CDC's National Center for Health Statistics.

FIGURE 2. Counties with drowning rates per 100,000 population ranked in the 75th percentile or higher, by county* — United States, 1979–1987



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Injury Mortality — Continued

Reported by: Biometrics Br, Div of Injury Control, National Center for Environmental Health and Injury Control, CDC.

Editorial Note: The injury mortality atlas was designed as a resource to assist public health professionals in 1) identifying specific regions and subpopulations at potentially elevated risk for injury-related mortality, 2) visually analyzing the geographic distribution of injury mortality across and within jurisdictional boundaries, and 3) generating hypotheses for further epidemiologic study. This atlas augments previous efforts to evaluate the geographic distribution of injury-related mortality using county-based maps (*5,6*) but that did not provide a comprehensive summary of the geographic distribution of cause-specific injury mortality. In addition, the EB-stabilization procedure employed in this atlas provides improved estimates of death rates in counties with small populations (*3*).

Because population-based data on nonfatal injuries are not available in the United States, mortality is the only measure of injury incidence available at the national level. This limitation may influence the interpretation of maps in the atlas. For example, a cluster of counties with high rates of fall-related mortality may reflect decreased survival of persons from fall-related injuries (because of limited emergency medical services and trauma care) rather than an increased incidence of fall-related injuries. Nonetheless, identification of areas characterized by high death rates is a crucial step in both etiologic studies and the development of successful intervention strategies.

Additional information about obtaining a copy of the *Injury Mortality Atlas Of The United States, 1979–1987*, is available from the Program Development and Implementation Branch, Division of Injury Control, National Center for Environmental Health and Injury Control, Mailstop F-36, 1600 Clifton Road, NE, Atlanta, GA 30333.

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Epidemiologic Notes and Reports

Update: Influenza Activity and Vaccine Availability — United States, 1991–92

During the 1991–92 influenza season, widespread influenza-like illness (ILI) activity* was first reported in Louisiana for the week ending November 9, 1991, and in Mississippi the week ending November 16. Through November 30, six additional states (Alaska, Missouri, New York, North Carolina, Tennessee, and Texas) reported widespread activity; 13 (Alabama, Arkansas, California, Florida, Georgia, Indiana, Kansas, Kentucky, Minnesota, Nebraska, New Jersey, Ohio, and Pennsylvania) reported regional activity.

Influenza A outbreaks in schools this season have been previously reported (*1*). The first laboratory-confirmed influenza A(H3N2) outbreak in a nursing home occurred in mid-November in Cleveland, Ohio, and affected 46 (14%) of the 335 residents; nine (20%) of the ill residents were hospitalized for pneumonia or other complications of influenza A infection, and two (4%) died.

Based on CDC's 121-city mortality reporting system, 5.4% of reported deaths were associated with pneumonia and influenza for the week ending November 30—a level that remains below the seasonal baseline for this period. However, reports of increases in mortality associated with influenza tend to lag behind reports of increased influenza activity.

Reported by: Participating state and territorial health department epidemiologists. EA Mortimer Jr, MD, Dept of Epidemiology and Biostatistics, J Fishman, MD, Dept of Medicine, Case Western Reserve School of Medicine, Cleveland; TJ Halpin, MD, State Epidemiologist, Ohio Dept of Health. WHO Collaborating Center for Surveillance, Epidemiology, and Control of Influenza, Influenza Br and Epidemiology Activity, Office of the Director, Div of Viral and Rickettsial Diseases, National Center for Infectious Diseases; Div of Immunization, National Center for Prevention Svcs, CDC.

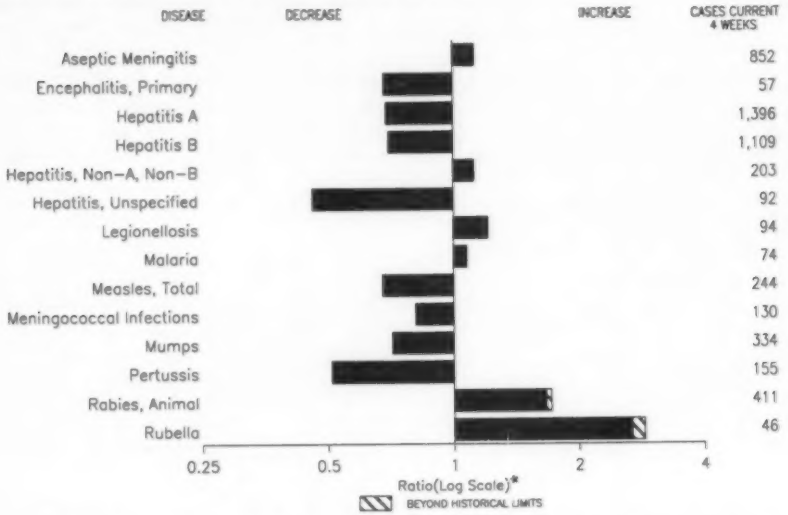
Editorial Note: Rates of morbidity and mortality in the Ohio nursing home outbreak are equal to or lower than those reported during influenza A(H3N2) outbreaks in previous years (*2–4*). Although influenza activity for 1991–92 has been reported earlier than in past seasons, the overall severity of influenza activity for this season cannot be predicted. However, because influenza A (H3N2) activity may be associated with excess mortality, health-care providers should continue efforts to vaccinate high-risk persons and their household members and caregivers (*5,6*).

The early influenza activity and resulting increase in demand for vaccine have raised questions regarding supply and distribution of influenza vaccine. Vaccine manufacturers produced and distributed 32 million doses of the 1991–92 influenza vaccine for civilian use, a 12.7% increase over doses produced during the 1990–91 season (CDC, unpublished data). Each year since 1985, 85% or more of influenza vaccine doses have been distributed to private physicians and health organizations,

(Continued on page 855)

*Levels of ILI or culture-confirmed influenza activity are reported by state and territorial health department epidemiologists. Levels of activity are: 1) *sporadic*—sporadically occurring ILI or culture-confirmed influenza, with no outbreaks detected; 2) *regional*—outbreaks of ILI or culture-confirmed influenza in counties having a combined population of <50% of the state's total population; 3) *widespread*—outbreaks of ILI or culture-confirmed influenza in counties having a combined population of ≥50% of the state's total population.

FIGURE I. Notifiable disease reports, comparison of 4-week totals ending December 7, 1991, with historical data — United States



*Ratio of current 4-week total to the mean of 15 4-week totals (from previous, comparable, and subsequent 4-week periods for the past 5 years). The point where the hatched area begins is based on the mean and two standard deviations of these 4-week totals.

TABLE I. Summary — cases of specified notifiable diseases, United States, cumulative, week ending December 7, 1991 (49th Week)

	Cum. 1991		Cum. 1991
AIDS	40,780	Measles: imported	226
Anthrax	-	indigenous	9,152
Botulism: Foodborne	22	Plague	10
Infant	68	Poliomyelitis, Paralytic*	-
Other	3	Psittacosis	82
Brucellosis	80	Rabies, human	3
Cholera	23	Syphilis, primary & secondary	39,101
Congenital rubella syndrome	34	Syphilis, congenital, age < 1 year	1,687
Diphtheria	2	Tetanus	45
Encephalitis, post-infectious	74	Toxic shock syndrome	261
Gonorrhea	566,480	Trichinosis	61
Haemophilus influenzae (invasive disease)	2,470	Tuberculosis	21,871
Hansen Disease	135	Tularemia	185
Leptospirosis	53	Typhoid fever	439
Lyme Disease	8,448	Typhus fever, tickborne (RMSF)	618

*Four suspected cases of poliomyelitis have been reported in 1991; none of the 8 suspected cases in 1990 have been confirmed to date. Five of the 13 suspected cases in 1989 were confirmed and all were vaccine associated.

TABLE II. Cases of selected notifiable diseases, United States, weeks ending December 7, 1991, and December 8, 1990 (49th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea		Hepatitis (Viral), by type				Legionellosis	Lyme Disease
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991
UNITED STATES	40,780	13,618	881	74	566,480	637,539	21,727	15,719	2,874	1,109	1,157	8,448
NEW ENGLAND	1,649	1,520	30	3	13,480	17,249	542	768	64	35	81	1,645
Maine	60	154	3	-	154	203	20	28	4	-	5	-
N.H.	45	170	5	2	183	288	30	30	8	-	9	35
Vt.	20	229	5	-	51	48	23	15	7	1	4	7
Mass.	905	514	14	1	5,744	7,245	269	531	31	31	58	282
R.I.	90	446	1	-	1,132	1,181	100	27	12	3	5	170
Conn.	529	7	2	-	6,216	8,284	100	137	2	-	-	1,151
MID. ATLANTIC	10,890	2,612	67	11	65,675	87,162	2,320	1,618	345	21	320	4,985
Upstate N.Y.	1,408	1,300	35	7	12,540	13,976	833	546	203	11	113	3,231
N.Y. City	6,196	371	1	-	24,428	34,208	835	276	9	-	58	-
N.J.	2,200	-	-	-	10,890	13,751	277	363	88	-	32	816
Pa.	1,086	941	31	4	17,817	25,227	375	433	45	10	117	938
E.N. CENTRAL	3,152	2,623	256	7	109,605	121,551	2,866	1,787	433	83	236	316
Ohio	546	968	86	2	33,119	36,074	351	373	165	20	122	169
Ind.	311	195	22	1	11,152	10,633	375	195	1	1	17	12
Ill.	1,548	503	86	4	33,887	37,314	1,236	281	73	7	22	25
Mich.	542	837	56	-	25,350	29,179	279	583	131	55	44	110
Wis.	205	120	6	-	6,097	8,351	625	355	63	-	31	-
W.N. CENTRAL	1,087	678	64	8	26,164	32,294	2,138	676	305	23	59	320
Minn.	229	136	38	-	2,982	3,941	404	80	12	2	13	84
Iowa	95	163	-	4	1,865	2,118	47	40	10	4	11	20
Mo.	609	255	14	4	16,812	19,356	581	454	272	12	17	193
N. Dak.	4	12	2	-	75	124	47	4	5	1	1	1
S. Dak.	3	12	4	-	337	298	774	7	1	-	3	1
Nebr.	55	30	2	-	1,686	1,782	202	38	1	-	10	-
Kans.	92	70	4	-	4,407	4,675	83	53	4	4	4	21
S. ATLANTIC	9,663	2,487	173	31	168,527	181,305	1,719	3,276	364	214	188	672
Del.	76	72	4	-	2,722	3,056	9	44	5	2	2	69
Md.	879	319	22	1	18,867	22,483	261	371	48	14	35	269
D.C.	706	74	2	-	8,600	12,756	73	142	1	1	10	4
Va.	677	446	44	3	17,352	17,633	182	212	30	134	16	145
W. Va.	53	57	34	-	1,218	1,270	22	61	4	20	4	44
N.C.	475	324	33	-	32,456	29,185	159	512	108	-	26	78
S.C.	306	40	-	-	13,393	13,823	38	654	16	4	36	10
Ga.	1,334	320	10	2	40,422	39,075	219	524	83	-	22	31
Fla.	5,157	835	24	25	33,497	42,024	756	756	69	39	37	22
E.S. CENTRAL	1,005	805	44	-	55,148	55,294	247	1,295	402	3	53	103
Ky.	160	194	15	-	5,633	6,038	58	170	7	2	18	42
Tenn.	333	238	18	-	18,561	17,183	141	957	367	-	18	45
Ala.	325	290	11	-	17,726	18,435	38	156	23	1	16	16
Miss.	187	83	-	-	13,228	13,638	10	12	5	-	1	-
W.S. CENTRAL	3,997	1,316	115	5	63,840	68,586	2,781	2,075	113	215	50	78
Ark.	182	61	32	-	7,435	8,226	239	127	4	8	7	29
La.	699	132	17	-	14,676	12,447	124	310	6	9	9	4
Okla.	192	4	10	3	6,440	6,005	269	194	43	16	21	31
Tex.	2,924	1,119	56	2	35,289	41,908	2,149	1,444	60	182	13	14
MOUNTAIN	1,187	266	20	3	11,312	13,181	3,343	930	198	137	79	20
Mont.	29	18	1	-	94	210	78	72	5	5	5	-
Idaho	27	-	-	-	152	139	92	67	4	2	5	2
Wyo.	17	-	-	-	93	159	125	23	5	-	-	9
Colo.	403	106	8	1	3,154	3,846	628	135	96	26	14	-
N. Mex.	103	20	1	-	943	1,188	775	213	20	29	3	-
Ariz.	246	70	10	2	4,238	4,937	1,061	172	20	60	32	1
Utah	122	17	-	-	316	361	280	71	18	14	9	2
Nev.	240	35	-	-	2,322	2,341	304	177	30	1	11	6
PACIFIC	8,150	1,311	112	6	50,729	60,917	5,771	3,294	650	378	91	309
Wash.	512	-	10	1	4,288	5,255	515	416	140	20	11	3
Oreg.	250	-	-	-	1,902	2,368	391	281	116	9	3	-
Calif.	7,179	1,213	100	5	43,012	51,568	4,727	2,507	377	348	75	306
Alaska	19	48	2	-	858	1,120	90	38	13	1	-	-
Hawaii	190	50	-	-	669	606	48	52	4	-	2	-
Guam	3	1	-	2	27	286	-	-	-	-	-	-
P.R.	1,638	232	2	4	509	715	138	485	144	44	-	-
V.I.	13	-	-	-	342	432	2	10	-	-	-	-
Amer. Samoa	-	-	-	41	38	73	4	-	-	-	-	-
C.N.M.I.	-	-	-	135	75	189	4	7	-	-	-	-

N: Not notifiable U: Unavailable C.N.M.I.: Commonwealth of the Northern Mariana Islands

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending December 7, 1991, and December 8, 1990 (49th Week)

Reporting Area	Malaria	Measles (Rubeola)				Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported*	Total									
	Cum. 1991	1991	Cum. 1991	1991	Cum. 1991	Cum. 1990	Cum. 1991	1991	Cum. 1991	1991	Cum. 1991	Cum. 1990	1991	Cum. 1991	Cum. 1990
UNITED STATES	1,115	38	9,152	22	226	25,929	1,870	43	3,822	38	2,441	4,039	19	1,344	1,081
NEW ENGLAND	67	-	65	-	17	298	147	1	28	7	272	413	-	4	8
Maine	1	-	7	-	-	30	13	-	-	-	52	22	-	-	1
N.H.	2	-	-	-	-	9	14	-	5	4	22	65	-	1	1
Vt.	4	-	5	-	-	1	16	-	4	-	5	8	-	-	-
Mass.	32	-	29	-	11	32	79	1	3	3	170	281	-	2	2
R.I.	7	-	3	-	1	30	3	-	4	-	-	9	-	-	1
Conn.	21	-	21	-	5	196	22	-	12	-	23	28	-	1	3
MID. ATLANTIC	218	25	4,802	-	7	1,803	202	3	279	5	241	535	1	573	11
Upstate N.Y.	49	-	359	-	4	318	103	1	99	5	153	318	-	539	10
N.Y. City	99	25	1,875	-	-	634	19	-	-	-	7	-	-	-	-
N.J.	54	-	1,026	-	2	439	40	-	65	-	12	36	-	1	-
Pa.	16	-	1,542	-	1	412	40	2	115	-	69	181	1	33	1
E.N. CENTRAL	88	-	75	-	20	3,541	318	2	387	3	368	1,032	-	319	163
Ohio	20	-	4	-	7	539	96	-	103	3	105	233	-	283	131
Ind.	3	-	1	-	5	418	42	-	8	-	70	144	-	2	-
Ill.	33	-	25	-	1	1,358	86	-	135	-	60	351	-	8	20
Mich.	29	-	43	-	-	473	70	2	112	-	37	84	-	25	9
Wis.	3	-	2	-	7	753	24	-	29	-	96	220	-	1	3
W.N. CENTRAL	39	-	38	-	17	872	112	3	119	2	205	206	-	19	42
Minn.	11	-	11	-	16	381	25	-	21	2	80	41	-	6	34
Iowa	7	-	17	-	-	26	14	-	22	-	24	18	-	6	4
Mo.	9	-	-	-	1	102	36	-	37	-	73	108	-	5	2
N. Dak.	2	-	-	-	-	-	1	-	2	-	3	5	-	1	1
S. Dak.	2	-	-	-	-	23	3	-	2	-	5	1	-	-	-
Nebr.	1	-	1	-	-	106	10	1	8	-	9	8	-	-	1
Kans.	7	-	9	-	-	234	23	2	27	-	11	25	-	1	-
S. ATLANTIC	221	11	571	18	41	1,315	332	18	1,460	3	244	315	-	10	21
Del.	3	-	21	-	-	11	4	-	7	-	-	9	-	-	-
Md.	61	-	173	181	21	213	34	1	241	-	57	63	-	1	2
D.C.	14	-	-	-	-	23	15	-	24	-	1	15	-	1	1
Va.	49	-	25	-	5	86	35	-	61	-	24	25	-	-	1
W. Va.	3	-	-	-	-	6	13	-	27	-	9	31	-	-	-
N.C.	14	-	40	-	4	39	54	-	250	-	39	78	-	2	1
S.C.	10	-	13	-	-	4	30	-	380	-	14	5	-	-	-
Ga.	21	-	10	-	5	358	69	-	72	-	49	41	-	-	1
Fla.	46	11	289	-	6	575	78	17	398	3	51	48	-	6	15
E.S. CENTRAL	20	-	29	1	4	199	122	-	231	1	99	159	-	100	4
Ky.	2	-	23	-	1	43	44	-	-	-	-	-	-	-	1
Tenn.	11	-	5	19	2	104	39	-	198	1	41	85	-	100	3
Ala.	7	-	1	-	1	25	37	-	13	-	54	66	-	-	-
Miss.	-	-	-	-	-	27	2	-	20	-	4	8	-	-	-
W.S. CENTRAL	68	-	203	-	14	4,328	123	8	320	1	154	198	1	8	91
Ark.	10	-	-	-	5	48	20	1	44	1	14	22	-	1	3
La.	17	-	-	-	-	10	35	2	33	-	17	33	-	-	-
Okla.	7	-	-	-	-	174	13	-	16	-	49	63	1	1	1
Tex.	34	-	203	-	9	4,096	55	5	227	-	74	80	-	6	87
MOUNTAIN	46	-	1,256	3	22	967	72	4	301	6	335	322	-	37	112
Mont.	1	-	-	-	-	1	10	-	-	1	6	36	-	11	15
Idaho	3	-	446	-	2	26	7	-	10	1	28	56	-	-	49
Wyo.	-	-	1	-	2	15	2	-	5	-	3	-	-	-	-
Colo.	13	-	1	35	8	138	16	1	134	-	133	118	-	2	4
N. Mex.	6	-	117	-	5	93	8	N	N	-	53	18	-	4	-
Ariz.	16	-	453	-	-	312	22	3	119	-	69	54	-	2	32
Utah	5	-	220	-	4	147	-	-	15	4	41	36	-	11	4
Nev.	2	-	18	-	1	235	7	-	18	-	2	4	-	7	8
PACIFIC	348	2	2,113	-	84	12,606	442	4	697	10	523	859	17	274	629
Wash.	26	-	46	-	15	328	62	-	167	4	132	216	-	8	-
Oreg.	12	-	52	-	41	212	57	N	N	-	67	110	-	4	75
Calif.	306	2	2,004	-	16	11,947	309	3	485	1	249	414	17	255	538
Alaska	-	-	2	-	3	80	9	1	17	-	13	10	-	1	-
Hawaii	4	-	9	-	9	39	5	-	28	5	62	109	-	6	16
Guam	-	U	-	U	-	1	-	U	-	U	-	1	U	-	-
P.R.	2	-	94	-	-	1,665	19	-	12	-	55	22	-	-	-
V.I.	2	U	-	U	2	24	-	U	10	U	-	-	U	-	-
Amer. Samoa	-	U	-	U	-	566	-	U	3	U	-	-	U	-	-
C.N.M.I.	1	U	-	U	-	66	-	U	-	U	-	4	U	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE II. (Cont'd.) Cases of selected notifiable diseases, United States, weeks ending December 7, 1991, and December 8, 1990 (49th Week)

Reporting Area	Syphilis (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1990	Cum. 1991	Cum. 1991	Cum. 1991	Cum. 1991
UNITED STATES	39,101	46,307	261	21,871	21,962	185	439	618	6,168
NEW ENGLAND	977	1,566	15	607	582	5	33	9	147
Maine	3	7	4	33	18	-	1	-	-
N.H.	12	51	3	5	3	-	1	-	2
Vt.	2	2	-	10	10	-	-	-	-
Mass.	470	644	8	339	329	5	28	8	14
R.I.	50	24	-	69	67	-	-	-	-
Conn.	440	838	-	151	155	-	3	1	131
MID. ATLANTIC	6,556	9,101	40	5,064	5,181	2	104	24	2,188
Upstate N.Y.	179	877	19	309	359	1	19	13	901
N.Y. City	3,701	4,082	2	3,256	3,242	-	59	1	-
N.J.	1,184	1,441	-	849	879	1	18	6	944
Pa.	1,492	2,701	19	650	701	-	8	4	343
E.N. CENTRAL	4,802	3,444	48	2,157	2,097	8	35	43	174
Ohio	631	523	22	353	375	2	3	25	20
Ind.	170	106	-	223	222	-	-	10	29
Ill.	2,332	1,424	15	1,104	1,027	4	15	5	35
Mich.	1,111	983	11	380	397	2	12	3	33
Wis.	558	408	-	97	76	-	5	-	57
W.N. CENTRAL	880	500	41	499	580	54	6	38	801
Minn.	65	86	9	95	121	1	2	-	290
Iowa	65	72	7	57	66	-	-	1	149
Mo.	539	272	13	220	283	43	1	26	23
N. Dak.	-	1	-	8	18	-	-	-	99
S. Dak.	1	4	1	31	13	5	-	1	165
Nebr.	17	15	2	20	16	1	3	5	17
Kans.	193	50	9	68	63	4	-	5	58
S. ATLANTIC	11,374	14,619	35	4,110	4,057	4	71	284	1,431
Del.	161	184	1	33	33	-	-	-	171
Md.	940	1,112	1	394	330	-	11	26	547
D.C.	673	1,046	1	174	149	-	3	-	21
Va.	810	923	5	299	371	-	10	19	239
W. Va.	26	18	-	65	75	-	1	4	49
N.C.	1,906	1,656	11	542	553	1	4	155	23
S.C.	1,464	993	2	398	444	1	4	37	107
Ga.	2,759	3,693	1	803	694	1	5	40	244
Fla.	2,635	4,994	3	1,402	1,408	1	33	3	30
E.S. CENTRAL	4,287	4,296	11	1,576	1,632	19	3	100	148
Ky.	105	112	4	316	345	4	2	28	47
Tenn.	1,383	1,804	5	593	487	14	1	56	29
Ala.	1,600	1,309	2	370	466	1	-	16	72
Miss.	1,199	1,071	-	297	334	-	-	-	-
W.S. CENTRAL	7,144	7,974	14	2,600	2,583	56	28	110	590
Ark.	668	581	3	232	308	42	-	28	48
La.	2,643	2,483	-	238	251	-	5	-	7
Okla.	197	259	4	165	196	13	3	80	170
Tex.	3,636	4,651	7	1,965	1,828	1	20	2	365
MOUNTAIN	578	852	32	573	526	31	12	8	236
Mont.	6	-	1	6	22	9	-	6	40
Idaho	4	6	-	12	11	-	-	-	6
Wyo.	10	3	-	4	5	1	-	-	83
Colo.	82	51	6	56	49	10	2	2	25
N. Mex.	30	46	7	62	104	2	2	-	6
Ariz.	342	599	5	293	237	3	7	-	46
Utah	7	29	13	51	38	6	-	-	19
Nev.	97	118	-	89	60	-	1	-	11
PACIFIC	2,503	3,955	35	4,685	4,724	6	147	2	453
Wash.	166	360	5	281	284	2	8	1	1
Oreg.	83	128	-	115	121	2	6	1	5
Calif.	2,242	3,431	30	4,038	4,090	2	121	-	443
Alaska	4	18	-	55	62	-	-	-	3
Hawaii	8	18	-	196	167	-	12	-	1
Guam	1	2	-	8	40	-	-	-	-
P.R.	409	313	-	211	146	-	9	-	60
V.I.	93	43	-	3	4	-	-	-	-
Amer. Samoa	-	-	-	2	15	-	-	-	-
C.N.M.I.	5	5	-	18	57	-	-	-	-

U: Unavailable

TABLE III. Deaths in 121 U.S. cities,* week ending December 7, 1991 (49th Week)

Reporting Area	All Causes, By Age (Years)						P&I†
	All Ages	≥65	45-64	25-44	1-24	<1	Total
NEW ENGLAND	741	529	123	48	22	19	54
Boston, Mass.	210	143	35	15	6	11	21
Bridgeport, Conn.	32	21	6	4	1	-	3
Cambridge, Mass.	29	21	5	3	-	-	5
Fall River, Mass.	30	22	8	-	-	-	-
Hartford, Conn.	71	51	6	6	6	2	1
Lowell, Mass.	23	17	5	-	-	1	1
Lynn, Mass.	14	12	1	1	-	-	-
New Bedford, Mass.	36	29	4	3	-	-	2
New Haven, Conn.	58	37	12	5	3	1	2
Providence, R.I.	72	57	12	2	1	-	5
Somerville, Mass.	8	6	1	1	-	-	-
Springfield, Mass.	56	38	10	3	3	2	3
Waterbury, Conn.	52	36	11	3	2	-	6
Worcester, Mass.	90	39	7	2	-	2	5
MID. ATLANTIC	2,660	1,748	502	259	70	78	133
Albany, N.Y.	72	55	9	4	1	3	9
Allentown, Pa.	32	28	2	2	-	-	-
Buffalo, N.Y.	100	73	20	2	1	4	4
Camden, N.J.	45	29	6	2	3	5	1
Elizabeth, N.J.	26	18	6	2	-	-	-
Erie, Pa.§	48	32	10	2	1	3	5
Jersey City, N.J.	75	49	15	6	2	3	2
New York City, N.Y.	1,242	804	234	144	38	22	48
Newark, N.J.	94	38	22	26	3	5	6
Paterson, N.J.	32	24	4	2	-	2	2
Philadelphia, Pa.	399	236	85	37	16	22	16
Pittsburgh, Pa.§	77	51	18	6	1	1	6
Reading, Pa.	46	34	9	3	-	-	8
Rochester, N.Y.	166	126	21	9	3	7	9
Schenectady, N.Y.	21	18	2	1	-	-	1
Scranton, Pa.§	36	28	6	1	1	-	3
Syracuse, N.Y.	76	54	17	4	-	1	5
Trenton, N.J.	30	21	7	2	-	-	4
Utica, N.Y.	22	15	5	2	-	-	2
Yonkers, N.Y.	21	15	4	2	-	-	2
E.N. CENTRAL	2,524	1,601	488	232	127	76	125
Akron, Ohio	66	50	10	1	2	3	-
Canton, Ohio	55	46	6	3	-	-	9
Chicago, Ill.	526	206	116	102	85	17	16
Cincinnati, Ohio	90	64	17	4	2	3	6
Cleveland, Ohio	187	139	31	9	2	6	6
Columbus, Ohio	216	134	50	20	4	8	5
Dayton, Ohio	136	95	29	9	2	1	15
Detroit, Mich.	319	179	74	34	14	18	8
Evansville, Ind.	50	40	7	2	1	-	1
Fort Wayne, Ind.	67	48	14	5	-	-	-
Gary, Ind.	30	18	7	4	1	-	-
Grand Rapids, Mich.	57	47	5	1	2	2	7
Indianapolis, Ind.	178	120	30	18	5	5	15
Madison, Wis.	46	32	10	2	1	1	3
Milwaukee, Wis.	141	104	21	7	1	8	10
Peoria, Ill.	32	24	5	3	-	-	4
Rockford, Ill.	59	44	13	1	-	1	7
South Bend, Ind.	45	35	6	3	1	-	-
Toledo, Ohio	138	109	20	3	4	2	11
Youngstown, Ohio	86	67	17	1	-	1	2
W.N. CENTRAL	707	509	118	32	17	20	38
Des Moines, Iowa	78	59	10	7	2	-	7
Duluth, Minn.	39	27	-	1	-	-	-
Kansas City, Kans.	39	27	6	3	3	-	1
Kansas City, Mo.	95	63	21	4	4	3	7
Lincoln, Nebr.	38	26	8	2	1	1	-
Minneapolis, Minn.	196	153	28	8	2	5	17
Omaha, Nebr.	101	68	22	4	2	5	2
St. Louis, Mo.	U	U	U	U	U	U	U
St. Paul, Minn.	62	42	16	-	1	3	3
Wichita, Kans.	59	44	7	3	2	3	1
S. ATLANTIC	1,027	639	212	112	35	28	58
Atlanta, Ga.	191	101	46	30	8	6	4
Baltimore, Md.	146	84	30	22	3	7	12
Charlotte, N.C.	U	U	U	U	U	U	U
Jacksonville, Fla.	148	107	29	8	2	2	20
Miami, Fla.	88	44	18	17	7	2	-
Norfolk, Va.	53	30	12	6	3	2	4
Richmond, Va.	106	68	25	7	6	-	3
Savannah, Ga.	40	27	9	3	1	-	2
St. Petersburg, Fla.	79	62	8	4	2	3	1
Tampa, Fla.	168	113	31	14	3	6	12
Washington, D.C.	U	U	U	U	U	U	U
Wilmington, Del.	8	3	4	1	-	-	-
E.S. CENTRAL	744	508	134	64	25	12	48
Birmingham, Ala.	92	56	19	10	6	1	4
Chattanooga, Tenn.	64	49	8	3	3	1	3
Knoxville, Tenn.	47	34	8	2	1	2	3
Louisville, Ky.	65	45	12	5	2	1	4
Memphis, Tenn.	251	173	46	21	11	-	15
Mobile, Ala.	37	24	5	7	-	1	1
Montgomery, Ala.	48	39	4	4	-	1	3
Nashville, Tenn.	140	88	32	12	2	5	15
W.S. CENTRAL	1,690	1,021	371	170	78	50	84
Austin, Tex.	40	31	4	4	-	1	3
Baton Rouge, La.	43	32	8	1	1	1	2
Corpus Christi, Tex.	73	53	12	4	1	3	3
Dallas, Tex.	230	118	52	38	9	13	4
El Paso, Tex.	70	44	13	9	3	1	3
Ft. Worth, Tex.	119	70	23	14	7	5	2
Houston, Tex.	471	244	138	55	24	10	41
Little Rock, Ark.	68	51	12	2	1	2	2
New Orleans, La.	136	81	30	14	9	2	-
San Antonio, Tex.	243	159	45	21	12	6	10
Shreveport, La.	44	32	10	1	-	1	2
Tulsa, Okla.	153	106	24	7	11	5	12
MOUNTAIN	833	576	151	62	17	27	61
Albuquerque, N.M.	94	71	13	9	-	1	7
Colo. Springs, Colo.	47	32	13	-	-	2	7
Denver, Colo.	133	87	21	9	5	11	12
Las Vegas, Nev.	105	69	24	9	2	1	5
Ogden, Utah	28	14	8	4	1	1	6
Phoenix, Ariz.	177	120	31	17	4	5	4
Pueblo, Colo.	26	23	3	-	-	-	3
Salt Lake City, Utah	58	39	11	5	3	-	6
Tucson, Ariz.	165	121	27	9	2	6	11
PACIFIC	2,070	1,365	384	192	69	56	122
Berkeley, Calif.	22	18	2	1	1	-	1
Fresno, Calif.	122	80	26	9	3	4	10
Glendale, Calif.	22	17	3	2	-	-	1
Honolulu, Hawaii	121	83	23	9	4	2	7
Long Beach, Calif.	84	53	14	10	-	7	7
Los Angeles, Calif.	377	229	79	36	21	9	19
Pasadena, Calif.	35	23	8	1	1	2	2
Portland, Oreg.	131	98	22	4	2	5	9
Sacramento, Calif.	197	126	38	16	13	4	8
San Diego, Calif.	163	99	35	17	5	7	19
San Francisco, Calif.	207	123	42	36	3	2	4
San Jose, Calif.	171	122	25	16	5	3	11
Santa Cruz, Calif.	43	32	7	4	-	-	4
Seattle, Wash.	199	133	34	21	7	4	2
Spokane, Wash.	68	48	12	4	1	3	13
Tacoma, Wash.	108	81	14	6	3	4	5
TOTAL	12,996¶	8,496	2,483	1,171	460	366	723

Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

† Pneumonia and influenza.

§ Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

¶ Total includes unknown ages.

U: Unavailable

Influenza Activity – Continued

with the remainder being distributed to the public sector (federal, state, and local health departments and programs), resulting in wide variation in distribution and use of the vaccine (CDC, unpublished data). In response to reports of vaccine shortages in some areas, representatives of CDC, the Pharmaceutical Manufacturers Association, the Food and Drug Administration, and the companies that manufacture influenza vaccine are assessing vaccine supply, distribution, and the possibility of redistributing vaccine from areas of surplus to areas reporting a shortage.

Persons at increased risk for complications of influenza include those who are aged ≥65 years; residents of chronic-care facilities; persons with chronic pulmonary (including asthma) or cardiovascular disorders; persons who require regular medical care or have been hospitalized because of chronic metabolic diseases (including diabetes), renal dysfunction, hemoglobinopathies, or immunosuppression (including that caused by medications and human immunodeficiency virus); and children and teenagers receiving long-term aspirin therapy (who may be at risk for developing Reye syndrome after influenza) (*6*). Although most publicly funded vaccination campaigns have been completed and most persons at high risk should have been vaccinated by December 1, the 1991–92 vaccine can be administered throughout the winter, and efforts to vaccinate high-risk persons and their contacts should be continued by health-care providers, especially private physicians, until influenza activity has begun to decline in the community. Amantadine may be used as an adjunct to vaccine, or alone if vaccine is contraindicated or unavailable, for prophylaxis against or treatment of influenza A infection, especially in high-risk persons (*4,6*).

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Current Trends

Drug Use and Sexual Behaviors Among Sex Partners of Injecting-Drug Users – United States, 1988–1990

The National AIDS Demonstration Research (NADR) Program of the National Institute on Drug Abuse evaluates community-based outreach and prevention efforts targeted to injecting-drug users (IDUs) and their sex partners. These sex partners who are not IDUs are at substantial risk for human immunodeficiency virus (HIV) infection, particularly if they engage in sexual intercourse without using condoms. In 1990, 1531 of the 42,557 acquired immunodeficiency syndrome (AIDS) cases reported to CDC occurred among sex partners of IDUs, an increase of nearly 32% from 1989 (*1*). This report summarizes data from the NADR Program characterizing persons who self-

Drug Use and Sexual Behaviors — Continued

reported never having injected drugs themselves but having had sex with a partner who was an IDU.

From June 1988 through March 1991, female and male sex partners of IDUs were recruited through community-based outreach settings (including door-to-door, hospital emergency rooms and clinics, and social service programs). Female sex partners of IDUs were interviewed at 54 sites throughout the United States (including Puerto Rico); male sex partners were recruited at 45 sites. The participants were interviewed using the AIDS Initial Assessment questionnaire to collect baseline information on demographics, sex and drug-use practices, and knowledge and attitudes about AIDS. In most sites, participants were given cash payments of $10–$20 or other material incentives (e.g., transportation vouchers, restaurant coupons) for completing an interview (*2*). The percentages given in this report are estimates obtained from a nonrandom sample of sex partners; therefore, the actual percentages could be different.

Of the 6104 study participants, 4249 (70%) were female; 1651 (27%) resided in the Northeast, 843 (14%) in the Midwest, 1670 (27%) in the South, 1490 (24%) in the West, and 450 (7%) in Puerto Rico. Of the females, 2474 (58%) were black and 1148 (27%) were Hispanic; of the males, 1291 (70%) were black and 241 (13%) were Hispanic. Most study participants (3834 [90%] females and 1438 [78%] males) were ≤40 years of age (median: for females, 28.7 years [range: 13–73 years]; for males, 31.8 years [range: 15–69 years]).

Among the study participants, 2263 (53%) females and 1196 (64%) males had completed high school. Four hundred twenty-six (10%) females and 377 (20%) males reported full-time employment; 2155 (51%) females and 739 (40%) males were unemployed. In addition, 534 (13%) females and 369 (20%) males reported living either in a shelter or on the streets. Those reporting having been in jail or prison at some time during their lives included 1548 (36%) females and 1250 (67%) males.

Although none of these sex partners reported having injected drugs, many reported use of noninjected drugs during the 6 months before the interview (Table 1). For example, 52% of the females and 58% of the males used cocaine in some form other than by injection. However, 976 (23%) females and 505 (27%) males reported ever having been in drug treatment during their lives; 843 (20%) females and 480 (26%) males reported participating in such groups during the 6 months before the interview.

TABLE 1. Number and percentage of sex partners of injecting-drug users (IDUs)* who used noninjected drugs during the 6 months preceding interview — selected U.S. sites, 1988–1990

	Females		Males	
Drug	No.	(%)	No.	(%)
Cocaine	2209	(52)	1078	(58)
Smoked crack	1697	(40)	816	(44)
Used crack daily	807	(19)	223	(12)
Used alcohol daily	721	(17)	498	(27)
Smoked marijuana daily	470	(11)	281	(15)
Used amphetamines orally	283	(7)	193	(10)
Used tranquilizers orally	449	(11)	181	(10)

*Sample size = 4249 females and 1855 males.

Drug Use and Sexual Behaviors — Continued

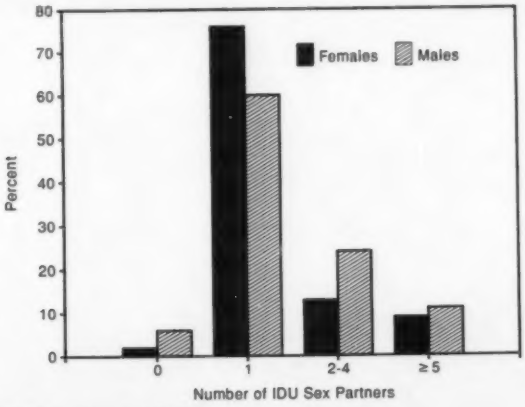
Most study participants (76% of females and 60% of males) reported having had heterosexual sex during the past 6 months with only one IDU partner (Figure 1); fewer participants (9% of females and 11% of males) reported having had sex with five or more IDU partners during that period. In comparison, 52% of female and 25% of male participants reported having a total of one heterosexual partner during the past 6 months (Figure 2), and 18% of female and 28% of male participants reported a total of five or more sex partners. Among the female study participants, 5% reported sex with a female partner who had injected drugs (2% strictly homosexual, 3% bisexual); among the males, 9% reported sex with a male IDU who was currently injecting drugs (5% strictly homosexual, 4% bisexual).

Although all of these sex partners of IDUs were at risk for acquiring HIV infection, latex condom use was uncommon (Table 2). Condoms were used less frequently by those with one IDU partner than by those with multiple partners: among females and males with one IDU partner, 30% and 38%, respectively, reported sometimes or always using condoms; among those with five or more partners, 72% of females and 47% of males reported sometimes or always using condoms.

For both females and males, vaginal intercourse was the most frequently reported sexual activity: 97% of females and 94% of males had vaginal sex during the 6 months before the interview (Table 2). Anal intercourse was less frequent: among the males, 22% reported anal sex with a female partner; 7% of the males reported insertive anal sex with a male partner, and 4% reported receptive anal sex. Always using condoms was infrequently reported for all types of sexual activity (Table 2).

Of all study participants, 1077 (25%) females and 396 (21%) males reported trading sex for drugs and/or money during the 6 months before the interview. Among females, 611 (14%) reported trading sex for drugs and 1021 (24%) for money; among males, 238 (13%) reported trading sex for drugs and 270 (15%) for money.

FIGURE 1. Percentage of noninjecting-drug users (non-IDUs)* who reported being heterosexual sex partners of IDUs during the 6 months preceding interview, by number of IDU sex partners and by sex of non-IDU — selected U.S. sites, 1988–1990



*Sample size = 4249 females and 1855 males.

Drug Use and Sexual Behaviors — Continued

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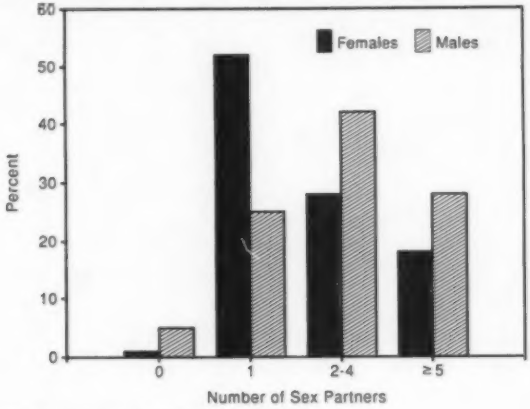
FIGURE 2. Percentage of noninjecting-drug users (non-IDUs)* who reported having had heterosexual sex during the 6 months preceding interview, by total number of sex partners and by sex of non-IDU — selected U.S. sites, 1988–1990



*Sample size = 4249 females and 1855 males.

TABLE 2. Percentage of sex partners of injecting-drug users (IDUs)* reporting sexual behaviors and use of latex condoms during the 6 months preceding interview — selected U.S. sites, 1988–1990

Sex/Sexual behavior	Use latex condoms (%)			Did not report (%)
	Always	Sometimes	Never	
Males				
Vaginal insertive	9	27	58	6
Oral insertive				
Male partner	1	1	5	93
Female partner	5	7	55	33
Oral receptive				
Male partner	1	1	3	95
Anal insertive				
Male partner	1	2	4	93
Female partner	4	3	15	78
Anal receptive				
Male partner	1	1	2	96
Females				
Vaginal receptive	7	27	63	3
Oral receptive	4	8	35	53
Anal receptive	2	2	11	85

*Sample size = 4249 females and 1855 males.

Drug Use and Sexual Behaviors — Continued

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Editorial Note: In 1990, nearly two thirds the females and half the males who had contracted AIDS through heterosexual activity had had a sex partner who was an IDU (*1*). Findings from the NADR Program indicate that sex partners of IDUs—a population considered to be "hard to reach"—can be accessed through community-based recruitment strategies that are selectively targeted. Evaluation of NADR Program projects indicates that many sex partners of IDUs either distrust or are unable to use the services of medical and social service providers. Accordingly, to be effective, outreach programs must deliver prevention programs directly to those at risk—where they live, work, and socialize. A key element in this program is the training and use of outreach staff who can be trusted by and are able to communicate with the target population (*3–5*).

Because the findings in this study are based on a nonrandom sample of sex partners of IDUs, they cannot be generalized. Nonetheless, the findings suggest the need for additional methods for reaching sex partners of IDUs. For example, drug-treatment programs could intensify efforts to reach partners of their IDU clients by making use of extensive staff training in HIV issues, innovative outreach methods, and creative counseling strategies. The findings also underscore the need to further refine methods of access that are tailored to specific groups, including those who are incarcerated, homeless, or unemployed; have low education levels; or are members of racial/ethnic minorities.

Among persons interviewed in this study, noninjecting-drug use was common. Many noninjected drugs, including alcohol, impair judgment and potentially increase HIV risk behaviors (*6*); the use of crack cocaine in particular increases risky sexual behavior, especially among females (*7,8*). In addition, active drug use constrains maintenance of positive behavior changes (*3–6*). Thus, AIDS prevention messages and interventions need to emphasize the risks involved with the use of both noninjected and injected drugs.

Condom use was more frequently reported by participants with multiple than single IDU sex partners, suggesting that 1) persons with multiple partners may be making a greater effort and/or finding it easier to protect themselves with some partners and/or 2) persons with only one partner believe, erroneously, they are not at risk for heterosexual transmission of HIV. Based on these findings, prevention messages for IDUs must emphasize the importance of both reducing the number of (known or suspected) IDU partners, and using latex condoms during every sexual contact by those with a single partner and those with multiple partners.

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Update: Cholera — Western Hemisphere, 1991

The epidemic of cholera that began in Peru in January 1991 continues to spread. Most recently, Bolivia, El Salvador, Honduras, Nicaragua, and Panama were added to the list of countries reporting cholera cases (Table 1) (*1–3*). Travelers who develop severe watery diarrhea or diarrhea and vomiting during or within 1 week after travel to an area with known cholera should seek medical attention immediately. Physicians should request that specimens from persons with suspected cholera be cultured on thiosulfate-citrate-bile salts-sucrose medium and should report all suspected cases of cholera to their local and state health departments.

Reported by: Enteric Diseases Br, Div of Bacterial and Mycotic Diseases, National Center for Infectious Diseases, CDC.

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3. CDC. Update: cholera—Western Hemisphere, and recommendations for treatment of cholera. MMWR 1991;40:562–5.

TABLE 1. Cholera cases reported to the Pan American Health Organization — Western Hemisphere, as of November 27, 1991

Country	No. cases	No. hospitalized	No. deaths	Date of report
Peru	285,438	108,271	2,720	Nov 13
Ecuador	40,465	32,326	623	Nov 2
Colombia	9,774	4,656	132	Nov 16
Mexico	2,107	767	27	Nov 8
Guatemala	2,536*	1,164	40	Nov 16
El Salvador	709	325	25	Nov 21
Panama	696*	156	20	Nov 16
Brazil	326	218	3	Nov 21
Bolivia	128*	62	10	Nov 25
Chile	41	NR†	2	Nov 11
United States	24(8§)	13	0	Nov 7
Honduras	5	5	0	Nov 2
Nicaragua	1	1	0	Nov 16
Canada	1§	NR	0	Jul 19
Total	**342,251**	**147,964**	**3,602**	

*Includes probable and confirmed cases.
†Not reported.
§Not related to Latin American epidemic.

Notices to Readers

Prevention 92 Conference: Linking Science, Policy, and Practice

CDC and 22 other national health agencies will cosponsor the ninth annual national preventive medicine meeting, "Prevention 92," in Baltimore on March 21–24. The themes are health issues in the workplace, competing agendas in prevention education, developments in clinical preventive medicine, and issues in public health. Sessions will include cardiovascular risk factors, clinical practice guidelines, the behavioral science bases of prevention, health-benefit plans, prevention of acquired immunodeficiency syndrome at the worksite, advances in immunizations, infant mortality, childhood lead poisoning, injury and violence, and infectious disease updates.

The conference is managed by the American College of Preventive Medicine and the Association of Teachers of Preventive Medicine. Registration information is available from the Meeting Manager, Prevention 92, 1015 15th Street, N.W., Suite 403, Washington, DC 20005; telephone (202) 789-0006.

New Report on Detailed Hospital Statistics

CDC's National Center for Health Statistics has published *Detailed Diagnoses and Procedures, National Hospital Discharge Survey, 1989* (*1*). The report presents statistics on conditions diagnosed and surgical and nonsurgical procedures performed in nonfederal, short-stay hospitals. Data are shown by age and sex of the patient and by geographic region of the hospital.

Copies of the report are available through the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 783-3238; stock no. 017-022-01143-3; price $12.00.

Reference

1. NCHS. Detailed diagnoses and procedures, national hospital discharge survey, 1989. Hyattsville, Maryland: US Department of Health and Human Services, Public Health Service, CDC, 1991; DHHS publication no. (PHS)91-1769. (Vital and health statistics; series 13, no. 108).

Brochure Available on Child Health

CDC's National Center for Health Statistics (NCHS) has published a brochure highlighting child health data. Data from the 1988 National Health Interview Survey on Child Health are featured along with other NCHS data systems.

Copies of the brochure are available free of charge from the Scientific and Technical Information Branch, NCHS, CDC, Room 1064, 6525 Belcrest Road, Hyattsville, MD 20782; telephone (301) 436-8500.

Erratum: Vol. 40, No. 48

In the article, "Dermatitis Among Workers Cleaning the Sacramento River After a Chemical Spill—California, 1991," the first full sentence on page 826 should read: "By July 21, the concentration of MITC in the river, at multiple test sites, measured 20–40 parts per billion (<0.0004%)."

Reported cases of measles, by state — United States, weeks 44–48, 1991

The *Morbidity and Mortality Weekly Report* (*MMWR*) Series is prepared by the Centers for Disease Control and is available on a paid subscription basis from the Superintendent of Documents, U.S. Government Printing Office, Washington, DC 20402; telephone (202) 783-3238.

The data in the weekly *MMWR* are provisional, based on weekly reports to CDC by state health departments. The reporting week concludes at close of business on Friday; compiled data on a national basis are officially released to the public on the succeeding Friday. Inquiries about the *MMWR* Series, including material to be considered for publication, should be directed to: Editor, *MMWR* Series, Mailstop C-08, Centers for Disease Control, Atlanta, GA 30333; telephone (404) 332-4555.

☆U.S. Government Printing Office: 1992-631-123/42048 Region IV

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